

### AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A method for the biological treatment of effluents contaminated with impurities of municipal or industrial origin, ~~characterized in that it employs~~ comprising the steps:

filling a single aeration tank ~~(1)~~ with high mass loading in which ~~the raw or mechanically pretreated effluent is mixed, without prior settling, with a free microbial culture of the activated sludge type, growing in a lightly aerated medium, of the order of 0.1 to 0.2 Kg O<sub>2</sub>/kg BOD<sub>5</sub> removed,~~

~~the applied organic loading being equal to or greater than at least 2 Kg COD/Kg SM/day, preferably equal to or greater than 4 Kg COD/Kg SM/day,~~

~~the hydraulic residence time of the raw effluent in the single aeration tank being between 30 and 90 minutes, and preferably between 40 and 60 minutes, and in that, in said single aeration tank (1)~~

~~a portion of the dissolved carbon pollution and nearly the entire colloidal and particulate fraction of the effluent~~ in the tank are being biosorbed by the activated sludge floc.

2. (Currently Amended) The method as claimed in claim 1, ~~characterized in that wherein~~ the value of said mass loading is above 1.5 kg BOD<sub>5</sub>/Kg SM/day, with a solid matter concentration between 0.5 and 2.5 gSM/l, giving rise to applied volumetric loadings above 3 kg BOD<sub>5</sub>/m<sup>3</sup>/day.

3. (Previously presented) The method as claimed in claim 1, ~~characterized in that it is controlled together with control~~ at the anaerobiosis limit, by regulating the dissolved oxygen content to values between 0.1 and 1 mg/l.

4. (Currently Amended) The method as claimed in claim 1, ~~characterized in that the very wherein~~ high loading sludge has a suspended matter concentration ~~of the order of 0.5 to 2.5 g/l, and preferably between 0.6 and 1.5 g/l.~~

5. (Currently Amended) The method as claimed in claim 1, ~~characterized in that wherein a~~ regulation system is provided, by ~~adjustment of~~ adjusting the recirculation rate of the mixed liquor in the single aeration tank, this regulation being carried out so as to maintain the solid matter (suspended matter + biomass) within a preset range, ~~preferably between about 1.0 and 1.5 g/l, and it is selectively~~ carried out by the continuous measurement of the turbidity of the activated sludge or of the mixed liquor, this measurement being combined with a slaving of the recirculation or extraction rate of said mixed liquor.

6. (Currently Amended) The method as claimed in claim 1, ~~characterized in that it comprises a~~ together with regulation of the air input in the single tank ~~(1)~~, in order to maintain a low dissolved oxygen setpoint, of the order of 0.1 to 1 mg/l.

7. (Currently Amended) An installation for ~~putting into practice the method as claimed in claim 1, characterized in that it comprises~~ the biological treatment of effluents contaminated with impurities of municipal or industrial origin, comprising:

a free culture reactor ~~(1)~~ in which the free culture grows in an aerated medium, in which a portion of the dissolved carbon pollution and nearly the entire colloidal and particulate fraction of the effluent are biosorbed by the activated sludge floc, said reactor, which constitutes said single aeration tank, comprising continuous or intermittent air input means ~~(2)~~, the mixing energy being supplied mechanically ~~in this case~~,

means ~~(3)~~ for selective continuous measurement of the turbidity of the activated sludge or of the mixed liquor,

means for measuring the dissolved oxygen concentration, ~~of for~~ for which the resulting data are processed by a servo system for slaving, ~~on the one hand~~, the mixed liquor recirculation or extraction rate to maintain a constant solid matter content in said reactor ~~and, on the other hand~~, while the air input to maintain maintains a low residual dissolved oxygen content in said reactor,

an intermediate clarifier ~~(4)~~ which separates the sludge from the depolluted effluent, and

a sludge recirculation circuit ~~(5)~~ from the intermediate clarifier to the free culture reactor, wherein the recirculation (or extraction) rate ~~being~~ is slaved to the turbidity measurement in the reactor.

8. (Currently Amended) The installation as claimed in claim 7, ~~characterized in that~~ wherein the reactor ~~1~~ operating with very-high loading activated sludge ~~takes the form of~~ is an integral mixing aeration tank.

9. (Currently Amended) The installation as claimed in claim 7, ~~characterized in that~~ wherein the sensor ~~(3)~~ is positioned directly in the biological reactor ~~(1)~~.

10. (Currently Amended) The installation as claimed in claim 7, ~~characterized in that~~ wherein the sensor ~~(3)~~ is positioned at the outlet of said reactor, on ~~the~~ a water line supplying the associated clarifier ~~(4)~~.